

## Chapter NR 295

## SUGAR PROCESSING

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**NR 295.01 Purpose.** The purpose of this chapter is to establish effluent limitations, standards of performance, and pretreatment standards for discharges of process wastes from the sugar processing category of point sources and subcategories thereof.

**Note:** The authority for promulgation of this chapter is set forth in ch. NR 205.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76.

**NR 295.02 Applicability.** The effluent limitations, standards of performance, pretreatment standards, and other provisions in this chapter are applicable to pollutants or pollutant properties in discharges of process waste resulting from operations in any of the following subcategories.

(1) **BEET SUGAR.** This subcategory covers the processing of sugar beets to produce sugar.

(2) **CRYSTALLINE CANE SUGAR.** This subcategory covers the processing of raw cane sugar into crystalline refined sugar.

(3) **LIQUID CANE SUGAR REFINING.** This subcategory covers the processing of raw cane sugar into liquid refined sugar.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76.

**NR 295.03 Definitions.** The following definitions are applicable to terms used in this chapter. Definitions of other terms and meanings of abbreviations are set forth in ch. NR 205.

(1) "Barometric condensing operations" means those operations or processes directly associated with or related to the concentration and crystallization of sugar solutions.

(2) "Melt" means the amount of raw sugar in the aqueous solution at the beginning of the process of producing refined cane sugar.

(3) "Net basis" means the amount of process pollutants added above those amounts present in the process water used.

(4) "Product" means crystalized refined beet sugar.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76.

**NR 295.04 Compliance with effluent limitations and standards.** Discharge of pollutants from facilities subject to the provisions of this chapter may not exceed, as appropriate:

(1) By July 1, 1977 effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available;

(2) By July 1, 1983 effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable;

(3) Pretreatment standards for discharges to publicly owned treatment works;

(4) Standards of performance for new sources.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76; r. and recr. Register, August, 1983, No. 532, eff. 9-1-83.

#### NR 295.05 Modification of effluent limitations.

(1) Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available may be modified in accordance with this section.

(2) An individual discharger or other interested person may submit evidence to the department that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the effluent limitations. On the basis of such evidence or other available information the department will make a written determination that such factors are or are not fundamentally different for that facility compared to those specified in either the Beet Sugar Processing or Cane Sugar Processing Development Document, respectively EPA 440/1-74-002-b published January 1974, or EPA 440/1-74-002-c published March 1974. If such fundamentally different factors are found to exist, the department shall establish for the discharge effluent limitations in the WPDES permit either more or less stringent than the limitations in this chapter, to the extent dictated by such fundamentally different factors. Such limitations must be approved by EPA which may approve, disapprove, or specify other limitations. Copies of these Development Documents are available for inspection at the office of the department of natural resources, the secretary of state's office, and the office of the legislative reference bureau, and may be obtained for personal use from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20460.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76; correction made in (2) under s. 13. 92 (4) (b) 6.

#### NR 295.06 Application of effluent limitations and standards.

(1) The effluent limitations and standards set forth in this chapter shall be used in accordance with this section to establish the quantity or quality of pollutants or pollutant properties which may be discharged by a point source subject to the provisions of this chapter, except as;

(a) They may be modified in accordance with s. NR 295.05,

(b) They may be superseded by more stringent limitations and standards necessary to achieve water quality standards or meet other legal requirements, or

(c) They may be supplemented or superseded by standards or prohibitions for toxic pollutants or by additional limitations for other pollutants required to achieve water quality.

(2) The production basis for application of the limitations and standards set forth in this chapter shall be the daily average of a maximum month in each subcategory subject to the provisions of this chapter.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76.

**NR 295.10 Effluent limitations, best practicable treatment.** The following effluent limitations for all or specific subcategories establish, except as provided in s. NR 295.05, the quantity or quality of pollutants or pollutant properties which may be discharged by a facility subject to the provisions of this chapter after application to process wastes of the best practicable control technology currently available.

(1) The pH limitations and the 30-day average and daily maximum limitations for BOD<sub>5</sub> and suspended solids are set forth in table 1 for 2 types of discharges from each subcategory;

(a) Discharges from barometric condensing operations only, and

(b) Discharges from barometric condensing operations combined with discharges of other process wastes.

(2) The limitations for BOD<sub>5</sub> and suspended solids in table 1 are in lbs/1000 lbs. or kg/1000 kg. of product for the beet sugar subcategory and of melt for both cane sugar subcategories, and shall be on the net basis for either of the cane sugar subcategories where the type of discharges described in sub. (1) (b) are mixed

and cannot be separated for measurement.

(3) In addition to the limitations of sub. (2), discharges from the beet sugar subcategory shall also be limited;

(a) For discharges described in sub. (1) (a) to the temperature acceptable for recirculation to the heat source or in any event not to exceed 90°F (32°C), and

(b) For discharges described in sub. (1) (b) to a temperature of 90°F (32°C) and a fecal coliform MPN of 400/100 ml.

TABLE 1  
BPT EFFLUENT LIMITATIONS

| Subcategory* | Type of Discharge | Suspended Solids |         | BOD <sub>5</sub> |         | pH Range |
|--------------|-------------------|------------------|---------|------------------|---------|----------|
|              |                   | Average          | Maximum | Average          | Maximum |          |
| (1)          | (a)               |                  |         | 2.2              | 3.3     | 6.0-9.0  |
|              | (b)               | 2.2              | 3.3     | 2.2              | 3.3     | 6.0-9.0  |
| (2)          | (a)               |                  |         | .34              | 1.02    |          |
|              | (b)               | .09              | .27     | .43              | 1.19    | 6.0-9.0  |
| (3)          | (a)               |                  |         | .15              | .45     |          |
|              | (b)               | .17              | .50     | .32              | .78     | 6.0-9.0  |

\*Subcategory as identified in s. NR 295.02

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76.

**NR 295.11 Effluent limitations, best available treatment.** The following effluent limitations for all or specific subcategories establish the quantity or quality of pollutants or pollutant properties which may be discharged by a facility subject to the provisions of this chapter after application to process wastes of the best available technology economically achievable.

(1) For facilities in the beet sugar subcategory processing more than 2,300 tons (2,090 kkg) daily of sliced beets and located where the soil filtration rate, naturally or by deliberate design within the boundaries of waste water treatment or retention facilities, in available areas is more than 1/16-inch (0.159 cm) per day there shall be no discharge of process wastes to surface waters.

(2) For facilities in the sugar beet subcategory processing a

smaller quantity of sliced beets than is set forth in sub. (1), and/or located where the soil filtration rate is less than set forth therein, the discharges shall be limited as set forth in subs. (3) and (4).

(3) For facilities subject to the provisions of this chapter other than sub. (1) the pH limitations and the 30-day average and daily maximum limitations for BOD<sub>5</sub> and suspended solids are set forth in table 2. Limitations are set forth for 2 types of discharges from facilities described in sub. (2);

(a) Discharges from barometric condensing operations only, and

(b) Discharges from barometric condensing operations combined with discharges of other process wastes.

(4) In addition to the limitations of sub. (3) discharges from facilities described in sub. (2) shall be limited as set forth in s. NR 295.10 (3) (a) and (b).

TABLE 2  
BAT EFFLUENT LIMITATIONS

| Subcategory* | Type of Discharge | Suspended Solids |         | BOD <sub>5</sub> |         | pH Range |
|--------------|-------------------|------------------|---------|------------------|---------|----------|
|              |                   | Average          | Maximum | Average          | Maximum |          |
| (1)          | (a)               |                  |         | 1.3              | 2.0     | 6.0-9.0  |
|              | (b)               | 1.3              | 2.0     | 1.3              | 2.0     | 6.0-9.0  |
| (2)          |                   | .035             | .11     | .09              | .18     | 6.0-9.0  |
| (3)          |                   | .03              | .09     | .15              | .30     | 6.0-9.0  |

\*Subcategory as identified in s. NR 295.02

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76.

**NR 295.12 Standards of performance.** The following effluent limitations for all or specific subcategories establish the quantity or quality of pollutants or pollutant properties which may be discharged by a facility which is a new source subject to the provisions of this chapter.

(1) For the beet sugar subcategory there shall be no discharge of process wastes to surface waters.

(2) For both cane sugar subcategories the pH limitations and

the 30-day average and maximum daily limitations for BOD<sub>5</sub> and suspended solids are set forth in table 2.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76.

**NR 295.13 Pretreatment standards.** The pretreatment standards for discharges to publicly owned treatment works from sources subject to the provisions of this chapter shall be as set forth in ch. NR 211.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76; r. and recr. Register, August, 1983, No. 332, eff. 9-1-83.